

REMARKS

Claims 1, 3-6, 8-28 and 62-70 are currently before the Examiner. Claim 1 has been amended herein.

Claims 1, 3 and 4 stand rejected under 35 U.S.C. 102 as being anticipated by JP08250835 (referred to herein as JP'835). The rejection is respectfully traversed.

The Office Action sites JP 08250835 (English Abstract) as teaching connecting an LSI package having metallic bumps (a surface mount electronic devise) to a printed wiring board (printed circuit board) with an intermediate film-like sheet of an organic resin having a melting point and coefficient of thermal expansion about the same as the metallic bumps (i.e. a thermoplastic adhesive as the intermediate layer). The Office Action states that JP'835 teaches that LSI package includes a BGA mold LSI package and a flip chip mold package, which reads on the element "encapsulated integrated circuit mounted on a connecting substrate having a bottom surface" of claim 1. Finally the Examiner notes that Fig (a) denotes a molded (encapsulated) LSI package.

In response applicants have amended claim 1 to more clearly state that the present invention is directed to attaching the "encapsulated integrated circuit mounted on a connecting substrate having a bottom surface" to a printed circuit board utilizing an thermoplastic adhesive. In addition, applicants have further amended claim 1 by including the complex viscosity property of the thermoplastic adhesive and the temperature at which that adhesive is a solid or semi-solid.

JP '835 differs from the present invention in that it is directed to the manufacture of "an encapsulated integrated circuit mounted on a connecting substrate" where the present invention in directed to attaching such to a PCB. JP'835 describes a film with perforations for the solder bumps of the device and requires a melting point and coefficient of thermal expansion (CTE) nearly equal to the solder for improved connection reliability. In contrast, the thermoplastic adhesive as described in claim 1

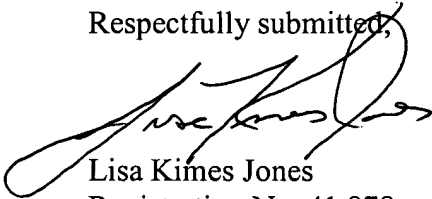
does not have a CTE or a melting point nearly equal to the solder. Therefore JP '835 does teach or suggest the present invention.

Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over JP'835 in view of US 6,132,543 to Mohri *et al.* The rejection is respectfully traversed. In response, applicant states that claim 5 is dependant upon and incorporates the limitations of claim 1 and is considered patentable for at least the same reasons as claim 1.

Claims 6, 8-22 and 62-70 stand rejected under 35 U.S.C. 103(a) as being unpatentable over JP'835 in view of US 6,541,872 to Schrock *et al.* The rejection is respectfully traversed. In response, applicants state these claims ultimately depend from claim 1, at least incorporate the limitations of claim 1, and are considered patentable for at least the same reasons as claim 1.

In light of the above amendments and remarks, it is respectfully submitted that the pending claims of the present application are in condition for allowance. If the Examiner has any questions or requires additional information, he is invited to contact the undersigned.

Respectfully submitted,



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